



Air Force Research Laboratory | AFRL

Science and Technology for Tomorrow's Aerospace Forces

Success Story

RADAR-BASED TARGET IDENTIFICATION CAPABILITY DEVELOPED FOR AWACS



Current identification (ID) capabilities, combined with restrictive rules of engagement, often result in very limited ID ranges, which limit weapons engagement ranges. The technical breakthroughs achieved in the radar-based target capability identification (RTCID) effort and their application to the E-3 Airborne Warning and Control System (AWACS) radar system provide reliable target ID at significant target ranges. Such long-range target ID information is available in real time to fighter aircraft for more effective use of advanced medium-range air-to-air missile and improved overall combat effectiveness of current and future Air Force weapons systems.



Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

Sensors Directorate engineers, working with Northrop Grumman's Electronic Sensors and Systems Sector and their subcontractor, JJM Systems of Jamison, Pennsylvania, developed a long-range, non-cooperative target ID capability for the AWACS aircraft. Directorate engineers flight tested RTCID at the all-service combat identification evaluation team (ASCIET) exercise. The Information Directorate's Hostile Target ID program sponsored this advanced technology demonstration (ATD).

Background

Fire control-type radar systems historically performed target ID functions. The Air Force expressed an interest in adding a radar-based, non-cooperative target identification (NCTI) capability to the E-3 AWACS. Recent conflicts and ASCIET testing demonstrated both a lack of adequate target ID capability and the value of adding such a capability to surveillance and command and control systems.

Past efforts investigated the addition of various target ID techniques for AWACS with limited success. This ID solution does not impact radar performance and uses existing modes of the radar. The RTCID ATD provides both a method and architecture for adding an NCTI capability to the AWACS, while providing a timely, high-confidence ID source for fusion with other onboard and offboard sources of ID information.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTT, (800) 203-6451 and you will be directed to the appropriate Laboratory expert. (99-SN-07)

Sensors Directorate
Support to the Warfighter